IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

OYSTER OPTICS, LLC, **Plaintiff,** **v.** **INFINERA CORPORATION, CORIANT (USA) INC., CORIANT NORTH AMERICA, LLC, and CORIANT OPERATIONS, INC.,** **Defendants.**	**Civil Action No. 2:19-cv-00257**

OBJECTIONS TO REPORT AND RECOMMENDATION
OF THE UNITED STATES MAGISTRATE JUDGE

Pursuant to Federal Rule of Civil Procedure 72 and Local Rule CV-72, Defendants Infinera Corporation, Coriant (USA) Inc., Coriant North America, LLC, and Coriant Operations, Inc. (collectively, "Defendants") respectfully submit their objections to Magistrate Judge Payne's Claim Construction Memorandum Opinion and Order [Dkt. No. 88] ("R&R"). The R&R construes the term "phase modulate" in U.S. Patent No. 6,665,500 (the "'500 patent"), to mean "alter the phase of light to create an optical signal having a phase that is representative of data." Dkt. No. 88 at 16. The R&R's construction conflicts with this Court's previous construction of the same term in related litigation between the parties, which explicitly excluded the use of amplitude modulation. *See* Dkt. No. 73 at 3-5; Dkt. No. 73-6 at 10-18. Defendants respectfully submit that the R&R's departure from this Court's previous construction arose from a misreading of the specification and not accounting for the disclosure of U.S. Patent No. 6,594,055, which is fully incorporated into the '500 patent by reference. The intrinsic record as a whole is not materially different from the intrinsic record in the previous cases. Thus, the term "phase modulate" should be construed to exclude amplitude modulation in this case, just as this Court concluded in the previous cases. Defendants therefore respectfully seek an order reinstating the construction of "phase modulate" from the prior litigation, *i.e.*, to "alter the phase of light to create an optical signal having a phase that is representative of data. Use of phase modulation excludes use of amplitude modulation." Dkt. No. 73 at 10; Dkt. No. 73-6 at 18.

This Court has already twice construed the term "phase modulate" for Oyster patents arising from the same work by the same named inventor at the same time. Dkt. No. 73 at 3-5; Dkt. No. 73-6 at 10-18; Dkt. No. 73-8 at 6-9. It rejected Oyster's construction—the same construction adopted by the R&R, Dkt. No. 73-6 at 10-18, —and then later clarified its construction by adopting the very same construction proposed by Defendants in this case, Dkt.

No. 73-8 at 6-9. In holding that "phase modulate" excludes amplitude modulation, this Court emphasized that Oyster's patents' specifications repeatedly "distinguish[]" between phase modulation and amplitude modulation and "disparage amplitude-modulated optical signals as being easily tapped." Dkt. No. 73-6 at 14. Thus, "the specification explains that the desired benefits of phase modulation are obtained only in the ***absence*** of amplitude modulation." *Id.* at 17 (original emphasis). Although other intrinsic evidence suggested that amplitude modulation and phase modulation were not "necessarily mutually exclusive," *see id.* at 12-16, this Court held that "on balance . . . the 'phase modulate' terms should be interpreted so as to exclude amplitude modulation." *Id.* at 17-18. Subsequently, even Oyster admitted that the "correct" construction "requires phase modulation with no amplitude modulation." Dkt. No. 73-2 at 19. On this record, there is no basis to depart from this Court's prior construction.

The R&R relies on two passages from the '500 patent that purportedly justify transmission of phase-modulated signals that are also amplitude modulated. Dkt. No. 88 at 9 (citing '500 patent at 4:37-41 and 2:41-45). Neither of these disclosures justify departing from the Court's prior construction of this term. First, the Summary of the Invention section of the specification is a reference to "the present invention" which is "a transmitter for transmitting ***either*** phase-modulated ***or*** amplitude-modulated optical signals." '500 Patent at 2:26-28 (emphasis added). The R&R's conclusion that this disclosure includes a third mode in which data is modulated using amplitude and phase modulation is incorrect. Instead, the correct reading is that the invention encompasses a phase-modulated transmission mode, an amplitude-modulated mode, or both of those two modes. *Id.* at 2:41-47. The phrase "which can permit the transmitter to work with different types of receivers," which immediately follows the discussing of having both a phase and amplitude modulated mode, shows that a single transmitter can be

versatile and accommodate either phase or amplitude modulation modes. *Id.* In other words, this language means the two are ***alternatives*** that allow compatibility with different types of receivers—not that they are combined, which would require a specialized receiver capable of handling both phase and amplitude modulation together. *See id*. Indeed, in contrast to single mode transmitters, *e.g.*, only phase modulation transmitters or only amplitude modulation transmitters, the patent is directed to a "dual mode" transmitter which is capable of both phase modulation modes and amplitude modulation modes. '500 patent at 8:12-17. These three transmitters account for the three types of transmitters described in the specification.

In contrast, the R&R's reading whereby the data is simultaneously both phase- and amplitude-modulated must be incorrect because the specification never describes this purported third mode. The claims contain no reference to this third mode, either—they consistently describe only two modes: one phase-modulated mode, and one amplitude-modulated mode. *See* generally, '500 patent at cl. 1 (covering only first and second modes), cl. 10 (same), cl. 11 (receiver receives two modes), cl. 16 ("dual-mode optical transmission system"), cl. 17 ("A method for transmitting optical data in two modes . . . ."). As a result, when understood in the context of the specification, the R&R's conclusion that the specification discloses a modulation mode in which the light is both phase and amplitude modulated is incorrect.

The R&R incorrectly concludes that the disclosure of a "specialized receiver" capable of reading "mixed" optical signals means the '500 patent must be capable of transmitting such a signal. R&R at 10. The receiver of the '500 patent does no such thing. The '500 patent does not disclose a receiver capable of meaningfully receiving and decoding a signal that is both phase and amplitude modulated. Instead, the receiver includes "[s]witch 39" which allows the receiver to toggle between the amplitude-modulated modes (direct and delayed) and the phase-modulated

mode. *See* '500 patent at Fig. 2. For example, the '500 patent teaches that in the "direct amplitude modulated" mode, the "[s]witch 39 thus set to receive an input from photodiode 35." '500 patent at 7:39-42. In contrast, for the phase-modulation mode, switch 39 is toggled to route signals from an interferometer 40 to the output 37. *Id.* at 7:12-31. The switch 39 is capable of routing either amplitude or phase modulated signals—but not both—to output 37.

The R&R attempts to discount the disclosure of the switch by stating that the receiver would not "use both the phase- and amplitude-modulated components of such a mixed signal." R&R at 10 n.1. But a receiver that simply ignores a hypothetical component of a mixed signal would be antithetical to the disclosure of the '500 patent. If the transmitter is transmitting data along the same carrier using both amplitude and phase modulation, but the receiver simply ignores one of those modulation schemes, then the receiver could not recreate the input data at the remote end. Thus the R&R's reliance on this disclosure of the specification is misplaced.

Second, the other portion of the specification upon which the R&R's conclusion relies expressly states that the signals "unrelated to the input optical data stream" may be amplitude modulated. '500 patent at 4:37-41, R&R at 9. This is consistent with Defendants' proposed construction. To be clear, the specification of the '500 patent never teaches amplitude modulating data on the optical signal when transmitting in the secure mode, *i.e.*, phase-modulating mode. The specification teaches that in the secure mode (phase modulation mode), if there is any amplitude modulation occurring, that "amplitude modulated signals ***not related to the input optical data stream***" could be transmitted… without necessarily affecting security." '500 patent at 4:37-41 (emphasis added). Non-data signals may include, for example, control or other command information, could be amplitude modulated in the secure mode as long as the data being transmitted is separately phase modulated. This is not a disclosure of a mixed phase-

modulated and amplitude-modulated data signal. Instead it describes using two different modulation formats for two different signals. This disclosure is entirely consistent with the '500 patent's emphasis on security arising from the phase-modulation mode, and consistent with the proposed construction's requirement that the data being transmitted be phase modulated ("alter the phase of light to create an optical signal having a phase that is representative of data…").

Moreover, the specification of the '500 patent repeatedly and explicitly incorporates by reference the '055 patent in its entirety. *See, e.g.*, '500 patent at 2:51-57. The '055 patent discloses a secure fiber optic data transmission system that uses only constant-amplitude phase-modulated optical signals due to their enhanced security and denigrates amplitude modulation as non-secure just like the '500 patent. '055 patent at 1:29-38. The R&R's construction negates the security aspects to which the '500 and '055 patent are directed. Importantly, there is a heavy presumption "that the same claim term in the same patent or related patents carries the same construed meaning." *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314 (Fed. Cir. 2003). Giving "phase modulate" a different meaning in the '500 patent from the '055 patent would violate this principle. After all, due to incorporation by reference, the entire text of the '055 patent is part of the '500 patent's disclosure. *Cook Biotech Inc. v. Acell, Inc.*, 460 F.3d 1365, 1376 (Fed. Cir. 2006). Yet, if the R&R's construction were adopted, the same term—"phase modulate"—would mean different things in different parts of that combined disclosure. Thus, this construction incorrectly gives the same term different meanings between these closely related patents, and inconsistent meanings within their own specifications.

Accordingly, Defendants respectfully submit that the Court should not adopt the opinion in the Claim Construction Memorandum Opinion and Order and instead enter an order construing "phase modulate" consistent with this Court's prior construction of this term.

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Respectfully submitted,

By: */s/ Melissa R. Smith*

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that counsel of record who are deemed to have consented to electronic service are being served with a true and correct copy of this document *via* the Court's CM/ECF system per Local Rule CV-5(a)(3) on this 7th day of August, 2020.

/s/ Melissa R. Smith
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